

Application of: Lemberger et al.

Serial No.: 10/821,439

IN THE CLAIMS:

Please amend claim 1, 9, 12 and 14 as set forth in the complete listing below, and cancel claims 6-8 and 19. This listing of claims will replace all prior versions and listings of claims in the application:

1.(Currently Amended) A tire valve stem cap incorporating a visible air pressure indicator, said cap comprising:

a hollow outer tube having a closed hemispherical transparent upper end and open lower end;

a stem connector for attachment at one end to an existing tire valve stem, said stem connector being sized for a close fit in the open outer end of said outer tube;

an indicator comprised of a hemispherical head conforming to the closed transparent upper end of said outer tube and visible there through, and a body protruding therefrom, said hemispherical head being defined by a lateral annular groove and a first O-ring seated in said groove to create a seal against said hollow outer tube, said indicator further having a central air passage through the head and body, said indicator being slidable within said outer tube from an up to a down position;

a compression spring having a calibrated bias encircling said indicator and biased against the hemispherical head for biasing said indicator toward said up position;

whereby when said tire valve stem cap is engaged on an existing tire valve stem,

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pressurized air from said tire passes from said tire stem valve through said indicator central air passage to maintain said indicator in equilibrium in said down position against the bias of said spring, but if, but if air pressure in the tire drops below a calibrated level the excess spring bias of said spring will cause said indicator to pop up and become visible inside said transparent end of said outer tube.

2.(Previously presented) The tire cap according to claim 1, wherein said central through bore of said stem connector is threaded for screw attachment to said tire valve stem.

3.(Previously presented) The tire cap according to claim 1, further comprising a collar attached inside the lower open end of said outer tube and around said stem connector; said collar sized for a close friction fit around said stem connector and for insertion into and attachment to said outer tube lower end.

4.(Previously presented) The tire cap according to claim 3 wherein said lower end of said outer tube is further comprised of an internal annular channel and said collar is comprised of a corresponding annular ring for attaching said outer tube onto said collar.

5.(Previously presented) The tire cap according to claim 3, wherein said collar and said lower section of said outer tube are threaded for screw attachment.

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6-8.(Canceled)

9.(Currently Amended) The tire cap according to claim 5 8, wherein said indicator body is further defined by a lateral annular groove for seating a second o-ring and said end fitting further comprises of a plurality of bleed ports corresponding in position to said second o-ring such that when said indicator is fully engaged (seated) in said end fitting the bleed ports are sealed, preventing pressurized air from entering the space beneath the spring bias collar, and when air pressure falls below said calibrated level the indicator slides upward, allowing pressurized air to pass through said bleed ports and creating an additional upward force beneath said collar causing said indicator to pop up.

10.(Previously presented) The tire cap according to claim 1, wherein said indicator head is brightly colored to be clearly visible through the transparent upper section of the outer tube when popped up.

11.(Previously presented) The tire cap according to claim 1, wherein said transparent end of said outer tube is hemispherical for receiving a hemispherical indicator head and for providing 360 degree visibility when said indicator is popped up.

12.(Currently Amended) The tire cap according to claim ~~12~~ 11, wherein said hemispherical

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indicator head further comprises a flat top having a plurality ribs for maintaining a clearance against the hemispherical transparent end of said outer tube.

13.(Previously presented) The tire cap of claim 1, wherein said stem connector is further comprised of a hexagonal outer surface for easy wrench tightening.

14.(Currently Amended) A tire valve stem cap incorporating a visible air pressure indicator, said cap comprising:

~~An an~~ indicator, a spring and a stem connector end fitting housed within a hollow outer tube having a closed hemispherical transparent upper end and open lower end; said indicator comprising a hemispherical head conforming to the closed transparent upper end of said outer tube and visible there through, and a body protruding therefrom, said hemispherical head being defined by a lateral annular groove and a first O-ring seated in said groove to create a seal space within the hemisphere of said hollow outer tube, said indicator further having a central air passage through the head and body leading to an exit aperture into said seal space, said indicator being slidable within said outer tube from an up to a down position said transparent end having a first sealed space;

a stem connector for attachment at one end to an existing tire valve stem and at an opposing end to said end fitting, said stem connector and end fitting each having central through bores;

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~~said indicator comprised of a head, body and ferrule, shaped and sized for slideable operation in the end fitting and outer tube; said indicator further having a central air passage with a plurality of entrance apertures in the ferrule and an exit aperture, leading to the first seal space; in the head;~~

a bias spring anchored between said end fitting and indicator head, said spring for sliding said indicator away from said end fitting towards said transparent end;

whereby when said cap is engaged on an existing tire valve stem, pressurized air from said tire passes from said tire stem valve through said indicator central air passage and into said first sealed space forcing said indicator in a normally closed (down position) equilibrium against the spring bias of said spring, but if air pressure in the tire drops below a calibrated level the excess spring bias of said spring will cause said indicator to pop up and become visible inside said transparent end of said outer tube.

15.(Previously presented) The tire cap according to claim 14, wherein said central through bore of said stem connector is threaded for screw attachment to both said end fitting and said tire stem.

16.(Previously presented) The tire cap according to claim 15, wherein said end fitting is a cylindrical body having an larger diameter upper section and a smaller diameter lower section, for slideably receiving the body and ferrule of the indicator, respectively, and wherein the

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junction between the upper and lower section is further defined by an annular upper hub with a radial flange for anchoring said spring and said lower section has a threaded outer surface for screw attachment to said stem connector.

17.(Previously presented) The tire cap according to claim 14, wherein a collar is slideably disposed around said stem connector; said collar sized for a close friction fit around said stem connector and for insertion into and attachment to said outer tube lower end.

18.(Previously presented) The tire cap according to claim 13, wherein said spring is a compression spring having a predetermined compression force.

19.(Canceled)